

- 1 1. A circuit, comprising:
2 first and second input terminals for receiving an AC input signal;
3 an input inductor having a first end coupled to the first terminal and a second end;
4 a feedback path for transferring a signal from a load to the second end of the first
5 inductor; and
6 a blocking capacitor coupled in parallel with the input inductor forming a notch
7 filter corresponding to a frequency of the load signal on the feedback path.
- 1 2. The circuit according to claim 1, further including first and second diodes coupled
2 end-to-end across first and second rails, wherein the second end of the first inductor,
3 which receives the load feedback, is coupled to a point between the first and second
4 diodes.
- 1 3. The circuit according to claim 2, wherein the first and second diodes are coupled in a
2 doubler configuration.
- 1 4. The circuit according to claim 1, further including a first capacitor coupled between
2 the first and second terminals.
- 1 5. The circuit according to claim 1, further including a resonant inductor and a resonant
2 capacitor for energizing the load via first and second load terminals.
- 1 6. The circuit according to claim 5, wherein the feedback path extends from the second
2 load terminal to the point between the second end of the first inductor.
- 1 7. The circuit according to claim 1, further including a resonant circuit for energizing a
2 fluorescent lamp load.

- 1 8. The circuit according to claim 1, further including a full bridge rectifier, which has
2 first, second, third, and fourth diodes, receiving the AC input signal, wherein the
3 feedback path extends to AC terminals of the full bridge rectifier.
- 1 9. The circuit according to claim 8, further including a first and second series capacitors
2 coupled end-to-end between the AC terminals of the full bridge rectifier, wherein the
3 feedback path extends from a point between the first and second series capacitors.
- 1 10. The circuit according to claim 1, wherein the entire current to the load passes over
2 the feedback path.
- 1 11. The circuit according to claim 1, further including a full bridge rectifier, which has
2 first, second, third, and fourth diodes, receiving the AC input signal, wherein the
3 feedback path extends to the full bridge rectifier.
- 1 12. The circuit according to claim 11, wherein the feedback path includes a first path
2 from the load to a first node coupling the first and third rectifier diodes and a second
3 feedback path from the load to a second node coupling the second and fourth diodes.
- 1 13. The circuit according to claim 12, further including a first bridge diode coupled to
2 the first node and a second bridge diode coupled to the second node.
- 1 14. The circuit according to claim 8, further including a second input inductor coupled
2 to the second input terminal and a second blocking capacitor coupled in parallel with the
3 second input inductor forming a further notch filter tuned to the frequency of the load
4 signal on the feedback path.
- 1 15. A circuit, comprising:
2 a resonant circuit including a resonant inductor and a resonant capacitor;

3 first and second diodes coupled end-to-end across first and second rails in a
4 voltage doubler configuration;
5 a feedback path for transferring energy from the load to a feedback point between
6 the first and second diodes;
7 first and second terminals for receiving and providing an AC input signal to the
8 first and second diodes;
9 an input inductor coupled between the first terminal and the feedback point; and
10 a blocking capacitor coupled in parallel with the input inductor, wherein the input
11 inductor and the blocking capacitor have impedance values that provide a notch filter
12 corresponding to an operating frequency of a load current transferred to the feedback
13 point.

1 16. A circuit, comprising:

2 a resonant circuit including a resonant inductor and a resonant capacitor;
3 a full bridge rectifier having first and second diodes coupled end-to-end across
4 first and second rails and third and fourth diodes coupled end-to-end across the first and
5 second rails;
6 a feedback path for transferring energy from the load to a feedback point between
7 the first and second diodes;
8 first and second terminals for receiving and providing an AC input signal to the
9 first and second diodes;
10 a first input inductor coupled between the first terminal and the feedback point;
11 a first blocking capacitor coupled in parallel with the first input inductor, wherein
12 the first input inductor and the first blocking capacitor have impedance values that
13 provide a first notch filter corresponding to an operating frequency of a load current
14 transferred to the feedback point; and
15 a second blocking capacitor coupled in parallel with the second input inductor,
16 wherein the second input inductor and the second blocking capacitor have impedance
17 values that provide a second notch filter corresponding to the operating frequency of the
18 load current transferred to the feedback point.

1 17. A method of minimizing electromagnetic conductance in a circuit receiving an AC
2 input signal from a line and having feedback, comprising:
3 coupling a first blocking capacitor in parallel with a first input inductor coupled to
4 a first input terminal for receiving the AC input signal;
5 providing a feedback signal from the circuit to the first input inductor, wherein the
6 feedback signal has an operating frequency; and
7 selecting an impedance for the first input inductor and an impedance for the first
8 blocking capacitor such that the first input inductor and the blocking capacitor provide a
9 first notch filter tuned to about the operating frequency of the feedback signal such that
10 energy from the feedback signal is substantially prevented from going back out onto the
11 line.

1 18. The method according to claim 17, further including coupling the feedback signal to
2 rectifying diodes, wherein the feedback signal promotes linear operation of the diodes.

1 19. The method according to claim 17, further including providing a second notch filter
2 on a second input terminal for receiving the input AC signal.

1 20. The method according to claim 17, further including providing the feedback signal
2 as the entire signal from a load.

1 21. The method according to claim 20, wherein the load corresponds to a fluorescent
2 lamp.

1 22. A circuit providing soft start to a lamp, comprising:
2 first and second lamp terminals for coupling to terminals of the lamp;
3 a load inductor having a first terminal coupled to the first lamp terminal and a
4 second terminal, wherein the load inductor is inductively coupled to resonant inductor;
5 a resonant capacitor coupled end-to-end with the load inductor across the first and
6 second lamp terminals, wherein the resonant capacitor includes a first end coupled to the

7 second end of the load inductor and a second end coupled to the second lamp terminal;
8 and
9 a positive temperature coefficient (PTC) element coupled in parallel with the
10 resonant capacitor.

1 23. The circuit according to claim 22, further including first and second switching
2 elements coupled to the resonant inductor in a half bridge configuration.

1 24. The circuit according to claim 22, further including full bridge switching elements
2 coupled to the resonant inductor.

1 25. The circuit according to claim 22, wherein the lamp includes a fluorescent lamp.

1 26. A method of providing soft start to a lamp in a circuit for energizing the lamp,
2 comprising:
3 coupling a load inductor and a resonant capacitor end-to-end across first and
4 second load terminals;
5 inductively coupling the load inductor and a resonant inductor; and
6 coupling a positive temperature coefficient (PTC) element across the resonant
7 capacitor.

1 27. The method according to claim 26, further including selecting an impedance of the
2 load inductor to maintain a relatively constant operating frequency of the circuit.

1 28. The method according to claim 26, further including selecting an impedance
2 characteristic for the PTC element to provide a glow current to the lamp for about 0.5
3 second before applying a strike voltage.